

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of re-routing a path ~~that is~~ installed in a transoceanic Multiplex Section Shared Protection Ring network in the event of a first failure on a first span of said path, said network comprising network elements connected in a ring configuration by fiber spans, said fiber spans comprising high priority channels and low priority channels, said method comprising ~~the step of~~:

performing a ring switch action by a Multiplex Section Shared Protection mechanism;
~~wherein it further comprises the step of~~

providing said ring with a Time Slot Interchange mechanism; and ~~and wherein it further comprises the step of~~

re-routing the ~~failed~~ path over a time slot of the low-priority channels corresponding to a time slot of the high-priority channels of the failed first span having the first failure; and

wherein a second span of the path becomes affected by a second failure, further comprising:

releasing the re-routing performed because of the first failure on the first span;

selecting one of the first and second spans; and

re-routing the path over a time slot of the low priority channels corresponding to a time slot of the high priority channels of the first or second span that has been selected.

2. (canceled).

3. (currently amended): A method according to claim 1, ~~in which~~wherein a further second span becomes affected by a second failure, ~~wherein it further comprises~~further comprising the step of maintaining the re-routing action, performed because of the first failure on the first failed span, ~~should when~~when persistency of re-routing information ~~be~~is supported by the network elements of the ring network.

4. (currently amended): A method according to claim 21, wherein the ~~step of~~ selecting one of the first and second ~~failed~~ spans comprises ~~the steps of~~:

identifying nodes terminating the ~~failed~~ path to be protected;

identifying switching nodes; and

considering ~~the~~ two spans adjacent to ~~the~~ switching nodes ~~that are~~ able to communicate with ~~the~~ termination nodes of the path to be protected, ~~wherein in the case where~~ at least one further span of the installed path becomes affected by an additional failure.

5. (currently amended): A method according to claim 21, wherein the ~~step of~~ selecting of one of the ~~failed~~ first and second spans comprises ~~the steps of~~:

providing each network node with a node identification ID;

identifying at least one switching ~~nodes~~node; and

selecting ~~that failed~~ the first or second span adjacent to ~~the~~ a switching node having a higher or a lower node identification ID.

6. (currently amended): A method according to claim 21, wherein the ~~step of~~ selecting of one of the ~~failed~~ first and second spans comprises ~~the steps of~~:

providing a network ring map;

identifying at least one switching ~~nodes~~ node; and

selecting ~~that~~ the first or second ~~failed~~ span adjacent to ~~the~~ a switching node that comes first or last in the network ring map.

7. (currently amended): A method according to claim 21, wherein the ~~step of~~ selecting of one of the ~~failed~~ first and second spans comprises ~~the steps of~~:

identifying a west side and an east side ~~sides~~ side in the ring network;

identifying at least one switching ~~nodes~~ node; and

selecting ~~that~~ the first or second ~~failed~~ span ~~that is adjacent to~~ the a far west or a far east switching node in the ring network.

8. (currently amended): A network element of a transoceanic Multiplex Section Shared Protection Ring network, said ring network comprising ~~further~~ network elements connected ~~one~~ to each other in a ring configuration by fiber spans, said fiber spans comprising high priority channels and low priority channels, said network element comprising:

means for performing ring switch actions upon receipt of a corresponding signal, wherein
said ring switch actions comprise ~~namely a~~ pass-through action, a bridge action or a switch
~~actionsaction, upon receipt of corresponding signalings;~~ and

means for issuing and sending proper ~~signalings~~ signals upon receipt of corresponding
~~signalings~~ signals,

wherein a path being is installed in said ring network,

wherein a time slot interchange mechanism is provided in said ring network, ~~and~~

wherein said network element further comprises means for, in case of a first failure in a
first span of the installed path, re-routing the path over a time slot of low priority channels
corresponding to a time slot of high priority channels of the ~~failed~~ first span having the first
failure, and

wherein a second span of the path becomes affected by a failure, wherein the network
element further comprises:

means for releasing the re-routing action performed because of the first span having the
first failure;

means for selecting one of the first and second spans; and

means for re-routing a path over the time slot of the low priority channels corresponding
to the time slot of the high priority channels of the selected first or second span.

9. (canceled).

10. (currently amended): A network element according to claim 8, ~~in which a further wherein a second span of the path becomes is~~ affected by a second failure, ~~wherein it further comprises~~ further comprising means for maintaining the re-routing action, performed because of the first ~~failed~~ span having the first failure, ~~should when the~~ persistency of the re-routing information ~~be is~~ supported by the network elements of the ring network.

11. (currently amended): A network element according to claim 98, wherein the ~~failed~~ path to be protected comprises termination nodes, switching nodes ~~being~~ identified because of a failure, and

wherein said means for selecting one of the ~~failed~~ first or second spans having a failure comprise means for considering ~~the~~ two spans adjacent to the switching nodes able to communicate with the termination nodes of the path to be protected in the case where at least one further span of the path becomes affected by a failure.

12. (currently amended): A network element according to claim 98, said network element ~~being~~ comprises:

a path termination node, and ~~wherein it further comprises~~

means for performing a Bridge&Switch action upon receipt of two ~~signalings~~ signals comprising corresponding bridge requests with a Bridge&Switch status code related to different spans.

13. (currently amended): A network element according to claim 98, said network element ~~being comprises:~~

a path non-termination node; ~~wherein it further comprises~~ and

means for performing a pass-through action upon receipt of at least one ~~signaling signal~~ comprising a bridge request with a Bridge&Switch status code.

14. (currently amended): A network element according to claim 8, said network element ~~being comprises:~~

a path termination node; and ~~wherein it comprises~~

means for performing a Bridge&Switch action upon receipt of two ~~signalings signals~~ comprising corresponding bridge requests with an Idle status code related to the ~~same~~ first or second span.

15. (currently amended): Network element according to claim 98, said network element ~~being comprising:~~

a path non-termination node; and ~~wherein it further comprises~~

means for performing a pass-through action upon receipt of at least one ~~signaling signal~~ comprising a bridge request with an Idle status code.

16. (currently amended): A transoceanic Multiplex Section Shared Protection Ring network comprising:

one or more network elements connected ~~one~~ to each other in a ring configuration by fiber spans, said fiber spans comprising high priority channels and low priority channels,

said network elements comprising:

means for performing ring switch actions upon receipt of corresponding signals, wherein said ring switch actions comprise a ~~namely~~ pass-through action, a bridge action or a switch actionsaction, ~~upon receipt of corresponding signalings~~; and

means for issuing and sending proper ~~signalings~~ signals upon receipt of corresponding ~~signalings~~ signals,

wherein a path ~~being is~~ installed in said ring network,

wherein a time slot interchange mechanism is provided in said ring network, and

wherein said network elements further comprise:

means for, in case of a failure in a span of the installed path, re-routing the path over a time slot of low priority channels corresponding to a time slot of high priority channels of the ~~failed~~ span having the failure;

wherein a second span of the path becomes affected by a failure, wherein the network element further comprises:

means for releasing the re-routing action performed because of the first span having the first failure;

means for selecting one of the first and second spans; and

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means for re-routing a path over the time slot of the low priority channels
corresponding to the time slot of the high priority channels of the selected first or second
span.